

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: PATHOPHYSIOLOGY  
Code No.: BIO 240-3  
Program: NURSING  
Semester: 4  
Date: JUNE, 1984  
Author: DAVID KELLY

New: \_\_\_\_\_ Revision: X

APPROVED:

Margaret Katered  
Chairperson

September 1984  
Date

TEXTBOOK(S):

Brunner, L.S. and Suddarth, D.S. Textbook of Medical-Surgical Nursing, 5th Ed., J. B. Lippincott Co., 1984.

Gerald, M.C. and F.V. O'Bannon. Nursing Pharmacology and Therapeutics. Prentice Hall Inc., Englewood Cliffs, N.J. 1981.

Haber, J. et al, Comprehensive Psychiatric Nursing, 2nd Ed., 1982.

Jones, D.A., C.F. Dunbar and M.M. Jirovec. Medical-Surgical Nursing. A Conceptual Approach, 2nd Ed., C.V. Mosby, New York, 1982.

Kee, J.L. Laboratory and Diagnostic Tests with Nursing Implications. Appleton-Century Crofts, 1983.

Treseler, K.M. Clinical Laboratory Tests - Significance and Implications for Nursing. Prentice Hall Inc., Englewood, N.J. 1982.

PATHOLOGY & THERAPEUTICS  
Course Name

BIO 240-3  
Course Number

CALENDAR DESCRIPTION:

This course is a continuation of BIO 200-3 which deals with disruptions of normal physiology and ineffective mental and emotional functioning. The disruptions and how they are manifested as ineffective responses will be discussed. Principles and hazards of therapies such as drugs, diet, radiation and parenteral fluids are included.

This course requires a knowledge of the accepted norms of human functioning as taught in Biology, Year 1. Nursing Practice Theory and Clinical will build on the material presented in this course.

PHILOSOPHY/GOALS:

COURSE OBJECTIVES: The student will:

1. Explain the relationship of stimuli to adaptive and ineffective responses in the person.
2. Relate the ineffective responses to selected common health problems of Canadians.
3. Recognize significant behaviour of the ineffective or adaptive responses.
4. Explain the principles and hazards of the therapies used to promote adaptation of clients at any point on the health-illness continuum.

METHOD OF ASSESSMENT (GRADING METHOD):

3 hrs/week for full academic year.

There will be 10 tests, worth 50% of the final mark.

The final exam for the semester will be worth 40% of the final mark.

Pre-tests will be given in most units; they will constitute 10% of the final mark

Students who are absent for tests are expected to follow college protocol in reporting their absence. Students must write the test within one week, extenuating circumstances excepted. Students are expected to make arrangements to complete the missed test immediately on their return.



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PART A: Cardiovascular Disorders

YEAR II, SEMESTER IV

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OBJECTIVES

CONTENT GUIDE

LEARNING ACTIVITIES

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Enlarged lymph nodes  
Abnormal heart sounds  
Arrhythmias  
Colour changes, eg., cyanosis  
Cough  
Distended veins  
Changes in pulses  
Hemoptysis  
Pain - covered in Year I and  
Introduction Unit  
Hypoxia  
Dyspnea and other respiratory  
Orthopnea changes  
Weakness  
Fatigue  
Decreased urinary output  
Anxiety, apprehension  
(eg: hyperventilation)  
Vasodilation, vaso constriction

3. Describe the stimuli which commonly result in adaptive and ineffective oxygen and circulation responses.

1. Internal

- a. age/development stage  
eg., atherosclerosis, arteriosclerosis
- b. genetics
  - i) hereditary, eg., congenital abnormalities
  - ii) autoimmunity, eg., rheumatic heart disease
- c. neoplasms
- d. micro-organisms, eg., beta hemolytic strep

OBJECTIVES	CONTENT GUIDE	LEARNING ACTIVITIES
<p>4. Describe the oxygenation and circulatory functions which are affected by adaptive and ineffective responses.</p>	<p>e. allergens, eg., hypoxia                      f. immobility, eg., deep vein thrombosis                      g. psychological, eg., stress personality type                      h. health status, eg., diabetes mellitus renal disease                      i. socio-cultural, eg., affluent diet                      j. mechanical, eg., arrhythmias                      2. <u>External</u>                      a. environmental, eg., industrial pollutants                      b. iatrogenic, eg., ineffective responses to medications                      c. trauma                      Pumping action of the heart                      Amount and rate of blood flow                      Normal neuromuscular blood vessel responses (reactions)</p>	<p>Refer to Lab manual</p>
<p>5. Explain the diagnostic measures employed in identifying common oxygen and circulation problems.</p>	<p>a. Review from Year I                      - erythrocytes                      - hemoglobin                      - hematocrit</p>	

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LEARNING ACTIVITIES

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	<ul style="list-style-type: none"><li>b. - arterial and venous studies</li><li>- tomography</li><li>- radionuclide imaging</li><li>- external and internal fetal monitoring</li><li>- cardiac catheterization - hemodynamic monitoring</li><li>- central venous pressure</li><li>- ECG and vectorcardiogram</li><li>- Echocardiogram</li><li>- Phonocardiogram</li><li>- Exercise testing</li><li>- Serum enzymes (such as SGOT, LDH, CPK, etc)</li></ul>	
6. Describe the use of dietary therapy to promote adaptation of Canadians with oxygen and circulation problems.	<ul style="list-style-type: none"><li>- Low fat diet</li><li>- Low sodium diet</li><li>- Increased iron</li><li>- Increased potassium</li></ul>	Review Year I material on nutrition
7. Describe the use, actions, and side effects of medications which promote adaptation related to oxygen and circulation.	<ul style="list-style-type: none"><li>- Cardiotonic agents</li><li>- Coronary vasodilators</li><li>- Antiarrhythmic agents</li><li>- Anticoagulants</li><li>- Anti-hypertensives</li><li>- Diuretics</li><li>- Anti-inflammatory agents</li><li>- Immunoglobulin (for Rh)</li></ul>	See core drug list; pharmacology test. Make up appropriate drug cards.
8. Describe the therapeutic measures initiated by other health care professionals to promote adaptation.	<ul style="list-style-type: none"><li>- Surgery</li><li>- Oxygen therapy</li><li>- Blood transfusions</li><li>- Assisted ventilation</li></ul>	

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OBJECTIVES	CONTENT GUIDE	LEARNING ACTIVITIES
9. Describe general therapeutic measures which promote adaptation related to oxygen and circulation.	CPR - review Exercise - aerobics "fitness" Smoking withdrawal clinics	
10. Discuss current areas of research.	Heart transplants Mechanical hearts Vitamins, eg., E Stress Personality types - workaholics Enzyme therapy	